

FEASIBILITY STUDY

SR 1141  
From NC 59 to SR 1007  
Fayetteville, Cumberland County  
U-2304

Prepared by  
Planning and Research Branch  
Division of Highways  
N. C. Department of Transportation

Lisa S. Hilliard  
Project Planning Engineer

L. Jack Ward, P.E.  
Unit Head

7-5-88  
Date

J. Greenhill, P.E.  
Manager, Planning and Research

SR 1141  
From NC 59 to SR 1007  
Fayetteville, Cumberland County  
T.I.P. # U-2304

The subject project is included in the 1988-1996 Transportation Improvement Program for feasibility study and/or right-of-way protection. This report provides a brief initial analysis of possible improvements. The project is not currently funded. Location of the project is shown on the attached map (see Figure 1).

I. GENERAL DESCRIPTION

The proposed project consists of widening SR 1141 (Cumberland Road) from NC 59 (Hope Mills Road) to SR 1007 (Owen Drive) a distance of 3.0 miles (see Figure 2). Construction of a five-lane, 64-foot face to face of curbs, curbed roadway appears to be feasible.

II. PURPOSE OF PROJECT

SR 1141 (Cumberland Road) is a designated major thoroughfare in the Fayetteville Urban Area Thoroughfare Plan and functions as an east-west route. The current traffic volume of 8700 vehicles per day (VPD) is expected to increase to approximately 17,900 VPD by the end of the planning period (year 2008). These volumes exceed the capacity of the current three-lane roadway. The provision of additional lanes will alleviate congestion and provide improved access to adjacent development.

The project has the support of the City of Fayetteville and is also recommended by the Division Engineer. Existing pavement width along the studied project is 36 feet. Horizontal and vertical alignments are generally good. The existing maintained right-of-way is approximately 60 feet. Additional right-of-way will be required for the proposed improvements.

The speed limit in the studied area is 45 MPH. Traffic signals exist at SR 1007 (Owen Drive), SR 1344 (Natal Street), SR 2920 (Upchurch Drive), SR 1219 (Tucker Street) and NC 59 (Hope Mills Road). There are two structures on the studied segment of SR 1141; one two-lane, 24-foot wide railroad overpass and one triple, 84 inch corrugated metal culvert. Development along the project consists of primarily mixed residential and commercial development.

The accident rate along SR 1141 from NC 59 to SR 1007 is 747.86 accidents per hundred million vehicle miles (ACC/100 MVM). During the same time period the statewide average was 419.5 ACC/100 MVM. The majority of accidents along SR 1141 were rear-end collisions. Provision of a five-lane cross section would decrease the potential for this type of accident.

### III. RECOMMENDED IMPROVEMENTS

Widening of SR 1141 (Cumberland Road) to a multilane facility is highly desirable. The recommended cross section is a five-lane, 64-foot face to face of curbs, curbed roadway. Acquisition of a 90-foot right-of-way width will be necessary to contain the construction. The City of Fayetteville concurs with the recommended 64-foot, face to face of curbs, curbed width. Symmetrical widening of SR 1141 is recommended. It is recommended the existing structure over Seaboard Coast Line Railroad be replaced at its present location since the existing alignment is good and symmetrical widening is recommended. This structure has a sufficiency rating of 39.5 and is eligible for bridge replacement funding. Traffic would need to be maintained during construction. A temporary at-grade crossing is not feasible due to the large difference in elevations; therefore, detouring of traffic on adjacent routes will need to be investigated during the preparation of the planning/environmental document. An extension of the Buckhead Creek culvert is recommended.

The estimated cost of the recommended improvements is \$9,032,500 including \$5,232,500 for right-of-way, \$3,800,000 for construction, engineering and contingencies, including \$650,000 for bridge replacement.

### IV. ALTERNATIVES

A five-lane cross section was recommended in the mutually adopted Fayetteville Urban Area Thoroughfare Plan. Future traffic, intersection level of service, and adjacent commercial development will require a five-lane facility. A five-lane shoulder section was also considered but rejected due to the additional right-of-way damage and the location of the project in an urban area.

### V. POSSIBLE ENVIRONMENTAL IMPACTS

No significant environmental impacts are anticipated if the recommended improvements are made. Since no families and no businesses will be displaced, symmetrical widening is desirable. During construction of the project there may be some erosion and siltation of drainage ditches. The studied project involves one stream crossing and culvert extension. As a result of wetland involvement with this crossing, the project may require a Section 404 permit. However; most impacts to animal or plant life are expected to be minor. There will be some delay and inconvenience to motorists since traffic may be detoured during the bridge replacement. Some increase in noise levels may result from these improvements, but there is no reason to believe that they would be substantial. If the project is implemented at a later date, all feasible alternatives and their associated impacts will need to be evaluated in a planning/environmental document prior to that time, and a final decision made as to the most appropriate improvement.

## VI. BASIS FOR FINDING

The information and recommendations of this report are based on the following:

1. Field Investigation
2. Input from Statewide Planning Unit
3. Contacts with Fayetteville City Engineer
4. Contacts with Division Engineer, Division Traffic Engineer and Area Traffic Engineer
5. Aerial mapping at 1" = 500'
6. Accident reports from the Traffic Engineering Branch
7. Construction cost estimates from the Roadway Design Unit
8. Right-of-way cost estimates from field personnel of the Right-of-way Branch

## VII. ADDITIONAL COMMENTS

Intersection improvement costs for the intersection of NC 59 (Hope Mills Road) and SR 1141 (Cumberland Road) have been included with project U-2308 (NC 59, From US 401 Business to Hope Mills) and are not included in this project.

The Division has recently widened SR 1141 from a two-lane roadway to the existing 36-foot three-lane shoulder section. These improvements should be considered an initial step towards the future five-lane facility.

LSH/sdt

